

Claims

1. A method for preparing foreign protein-expressing cells, wherein genes encoding G-protein coupled receptors (GPCRs) and genes encoding a chimeric Gq α subunit constituted by a portion of a Gq α or G₁₁ α subunit and a portion of a G₁₄ α , G₁₅ α , or G₁₆ α subunit are transfected into animal cells and expressed therein.

2. The method for preparing foreign protein-expressing cells according to claim 1, wherein the amino acid sequence of the N-terminal side of the chimeric Gq α subunit is derived from a Gq or G₁₁ subunit and the amino acid sequence of the C-terminal side thereof is derived from a G₁₄, G₁₅, or G₁₆ subunit.

3. The method for preparing foreign protein-expressing cells according to claim 1, wherein a gene encoding a GPCR is first transfected and a gene encoding the chimeric Gq α subunit is then transfected 12 to 36 hours thereafter.

4. The method for preparing foreign protein-expressing cells according to claim 1, wherein the ratio of the amount of genes encoding the chimeric Gq α subunit to that of the genes encoding a GPCR is 1:0.1 to 1:10.

5. A group of foreign protein-expressing cells comprising a G-protein coupled receptor (GPCR) and a chimeric Gq α subunit constituted by a portion of a Gq α or G₁₁ α subunit and a portion of a G₁₄ α , G₁₅ α , or G₁₆ α subunit.

6. The group of foreign protein-expressing cells according to claim 5, wherein the amino acid sequence of the N-terminal side of the chimeric Gq α subunit is derived from a Gq or G₁₁ subunit and the amino acid sequence of the C-terminal side thereof is derived from a G₁₄, G₁₅, or G₁₆ subunit.

7. A screening method, wherein a test substance is brought into contact with foreign protein-expressing cells comprising a G-protein coupled receptor (GPCR) and a chimeric Gq α subunit constituted by a portion of a Gq α or G₁₁ α subunit and a portion of a G₁₄ α , G₁₅ α , or G₁₆ α subunit, GPCR activities are assayed, and a ligand of the GPCR is then screened for.

8. The screening method according to claim 7, wherein elevation of intracellular Ca concentration is assayed.

9. The screening method according to claim 7, wherein changes in a Ca-dependent Cl current are assayed as indicators of intracellular Ca concentration.

10. The screening method according to any one of claims 7 to 9, wherein the amino acid sequence of the N-terminal side of the chimeric Gq α subunit is derived from a Gq or G₁₁ subunit and the amino acid sequence of the C-terminal side thereof is derived from a G₁₄, G₁₅, or G₁₆ subunit.